

## Abstract paper ref. 29

### Qualicer 2016 Paper Proposal Block A – Ceramic enterprise and markets

#### Will there be enough good, white canvas for ceramic tile's digital future?

Analysis of future zircon supply, value-adding quality & its impact on the global ceramic tile industry

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#### Abstract

In the past three decades, the global ceramic tile industry saw a fast-changing evolution and adoption of ceramic tile decoration methods and technologies. Specifically, in the past ten years, the introduction of ceramic digital printers has elevated the industry to a digital platform, where an even faster development of new ways of decorations is expected. Efforts to ensure availability of good quality, essential ceramic tile raw materials in the future are, therefore, crucial to support future developments in the global ceramic tile industry.

Zirconium silicate ( $ZrSiO_4$ ) is one of key ingredients in ceramic tile decorations. It is mainly used to provide effective, opaque and white 'canvas' in ceramic bodies, frits, engobes and glazes, including as a direct pigmentation material for specific designs. It is also used as the main ingredient for producing fused and chemical zirconia ( $ZrO_2$ ), used as base materials for producing high-temperature resistant ceramic pigments and inks. As the ceramic tile industry aims to produce higher-definition, highly-differentiated tile products by fully exploiting the digital decoration platform, the role of decorative materials become even greater. In turn, the supply availability and quality of value-adding, base materials for producing decorative materials also become more important—they influence the ease of manufacture, formulations and final quality of the decorative products and ceramic tiles.

Therefore, strategically, it is imperative that ceramic industry participants keep track of the supply and quality trends of the base raw materials. In 2011-2012, supply availability of zircon went through a volatile stage, resulting to insufficient availability in certain regions that led to a short-term surge in its global market price. Shortly and subsequent to that period, supply availability has eased and zircon price has come back down. In recent years, its availability has been far more stable. Given this seemingly volatile episode, the key questions in the minds of ceramic tile industry participants when looking ahead to the future could be summarised as follows:

- Viewed from supply availability and quality aspects, what is the current status of the global zircon industry? How does it currently address the requirements of the ceramic tile industry? What value-adding product quality aspects assist the global ceramic tile industry as a whole?

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- Where is it heading, with particular focus on the demand and supply drivers in the long-term?
- How will the changing product quality of various planned zircon projects impact on the needs of the global ceramic industry, particularly in supporting the fast-changing digital platform of ceramic decoration?

This industry analysis aims to provide answers to these questions. Hopefully, ceramic tile industry participants gain greater understanding of the global zircon industry developments, particularly future supply availability, value-adding product quality and potential impact to the global ceramics industry. In turn, participants become well-positioned in evaluating decisions on strategic supply and product quality of their essential raw materials.

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